

“Great deeds are usually
wrought of great risks”

Herodotus, 484-430 BC

The Traditional Decision Rule

BCR= Benefit Cost Ratio

$$B / C$$



Why Traditional Application of the Decision Rule is Not Meeting Current Decision-Making Needs

- Uncertainties
 - Include consideration of uncertainties in an explicit and transparent manner within the decision-making process



Why Traditional Application of the Decision Rule is Not Meeting Current Decision-Making Needs

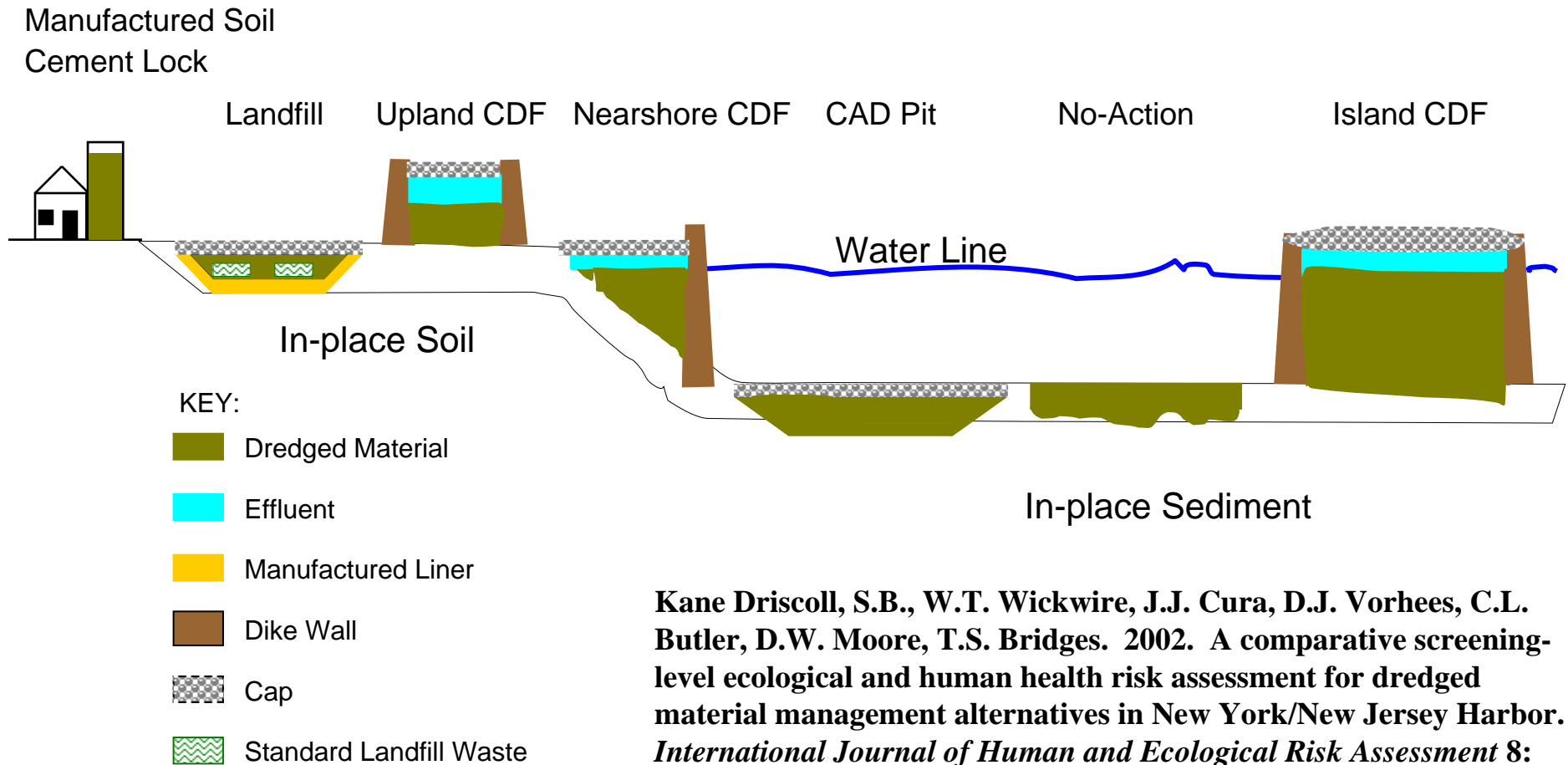
- Current decision problems are multi-objective

environment → Environment

How much treasure is a butterfly worth?

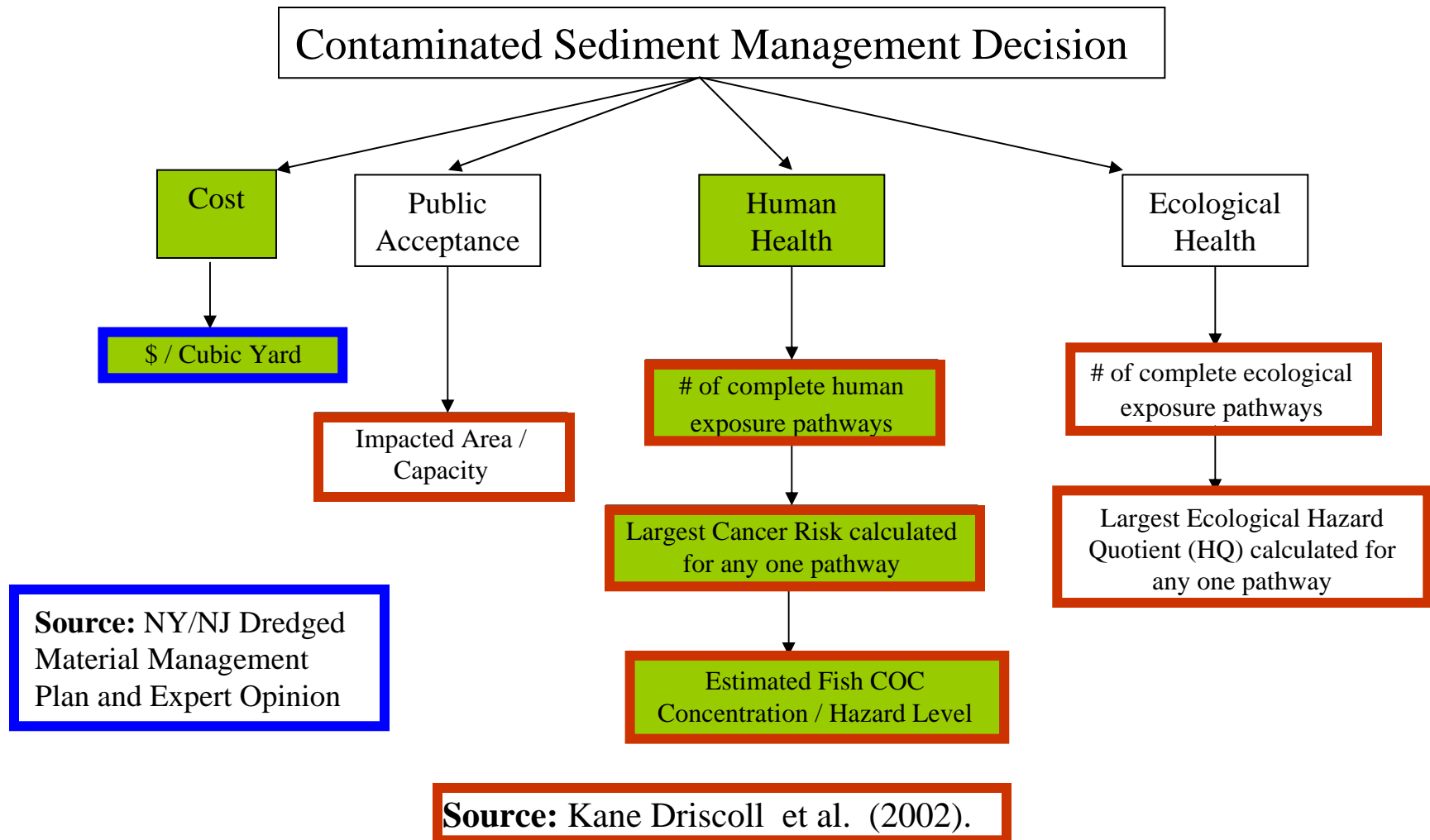


NY Disposal Alternatives

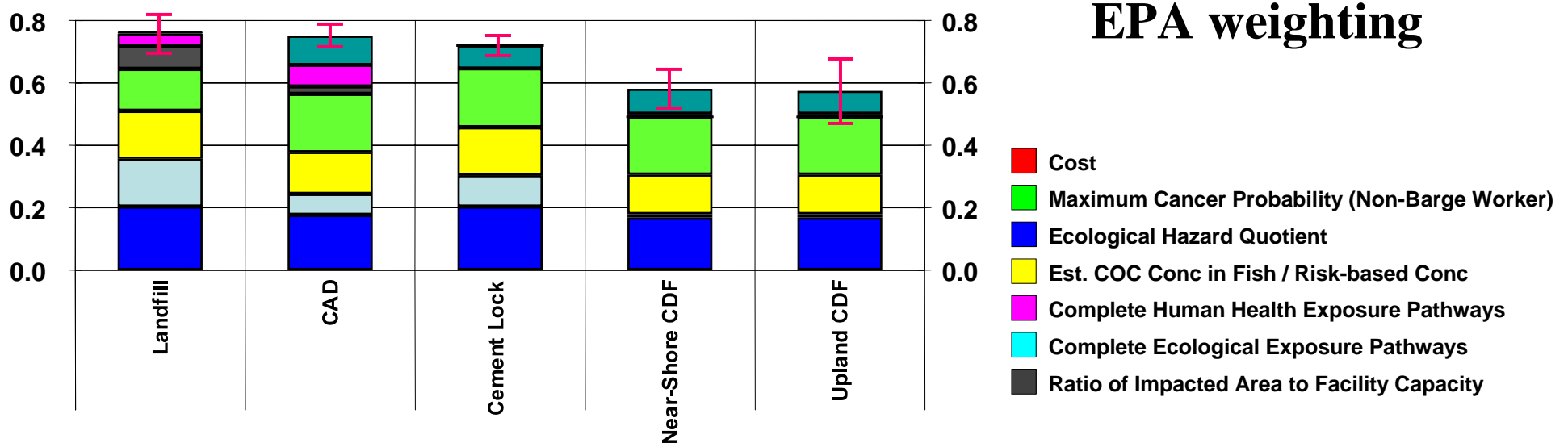
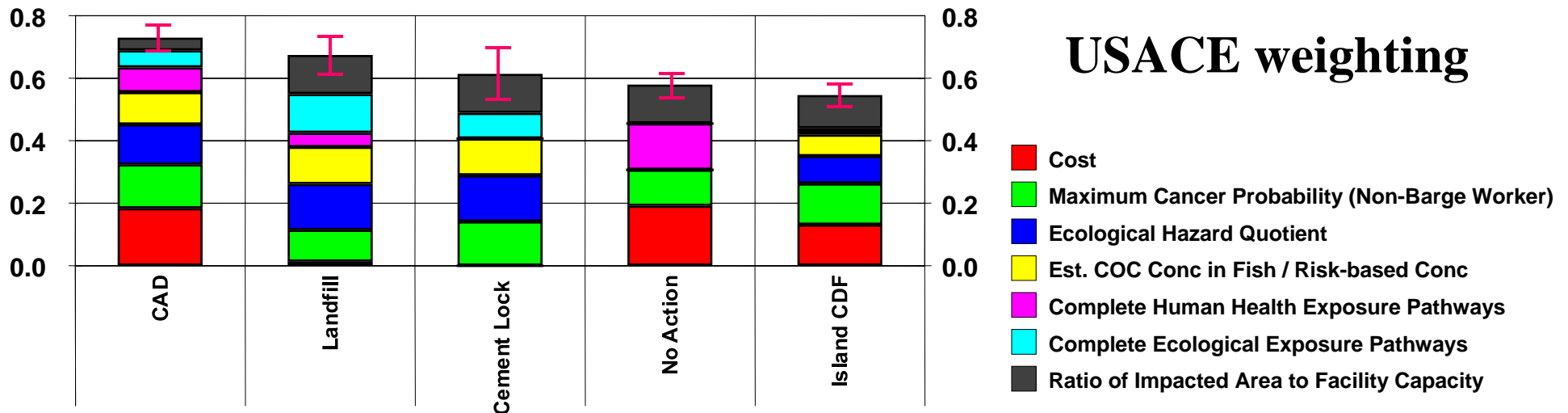


Kane Driscoll, S.B., W.T. Wickwire, J.J. Cura, D.J. Vorhees, C.L. Butler, D.W. Moore, T.S. Bridges. 2002. A comparative screening-level ecological and human health risk assessment for dredged material management alternatives in New York/New Jersey Harbor. *International Journal of Human and Ecological Risk Assessment* 8: 603-626.

Decision Criteria: NY/NJ Harbor



Criteria Contributions to Decision Score



USACE Environmental Operating Principles

- Strive to achieve environmental sustainability. An environment maintained in a healthy, diverse and sustainable condition is necessary to support life.
- Recognize the interdependence of life and the physical environment. Proactively consider environmental consequences of Corps programs and act accordingly in all appropriate circumstances.
- Seek balance and synergy among human development activities and natural systems by designing economic and environmental solutions that support and reinforce one another.
- Continue to accept corporate responsibility and accountability under the law for activities and decisions under our control that impact human health and welfare and the continued viability of natural systems.
- Seeks ways and means to assess and mitigate cumulative impacts to the environment; bring systems approaches to the full life cycle of our processes and work.
- Build and share an integrated scientific, economic, and social knowledge base that supports a greater understanding of the environment and impacts of our work.
- Respect the views of individuals and groups interested in Corps activities, listen to them actively, and learn from their perspective in the search to find innovative win-win solutions to the nation's problems that also protect and enhance the environment.